Bi-weekly Wetland and Stream Corridor Restoration Update
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Welcome to the Bi-weekly Restoration Information Update. This web site
- Provides current information on wetland and river corridor restoration projects
- Recognizes outstanding restoration projects
- Provides a forum for information sharing

We welcome the submission of articles and announcements related to your restoration project. Just send your write-up to EPA's contractor at restorationupdate@tetratech-ffx.com or mail it to Rebecca Schmidt, Bi-weekly Restoration Update Coordinator, Tetra Tech, Inc., 10306 Eaton Place, Suite 340, Fairfax, VA 22030. We will carefully consider your submission for inclusion in a future update. If your submission is selected, please note that it might be edited for length or style before being posted. Because this web site is meant to be a public forum on restoration information, we cannot post any information that is copyrighted or information that serves or has the appearance to serve as advocating or lobbying for any political, business, or commercial purposes.

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Feature Article

The Mill Creek Watershed Council Helps Improve America's Most Endangered Urban River

For more than a decade the Mill Creek watershed, which drains about half of Cincinnati, Ohio, has been suffering. In 1996 American Rivers listed Mill Creek as one of the 20 most threatened waterways in North America. A year later American Rivers named Mill Creek "the most endangered urban river in North America." The Mill Creek Watershed Council was formed in 1995 in response to the degrading health of the watershed.

The Mill Creek Watershed Council is a publicly funded, nonprofit corporation representing all 37 political jurisdictions in the Mill Creek watershed. The Council's top priorities are promoting awareness, environmental cleanup and restoration, flood control, and recreational activities on waterways in the Mill Creek watershed. The Council works to balance environmental, economic, and social needs through consideration of all benefits and consequences of proposed projects.

Achieving Floodplain and Wetland Restoration

In fall 2001 the Council transformed a flat cornfield into a rolling wetland. The 5-acre restoration site is located in the center of West Chester Township on upper Mill Creek. Schumacher Dugan Construction secured a conservation easement for the site and donated close to $100,000 in earth-moving services. They removed a farm levee confining the stream and recontoured the land to create a meandering stream channel connected to a naturally vegetated floodplain and wetland area.

Additional help for the project was provided by Craig Straub of BHE Environmental, Inc., and Tom Crawford of the City of Cincinnati who designed the streamside wetland and floodplain area. Warren High of Woolpert LLP helped to design the stream riffles and meanders. In all, more than 170 hours of professional design work were donated. Nancy Ellwood, executive director of the Mill Creek Watershed Council, helped secure an additional $90,000 in project funding from EPA through a Clean Water Act grant.

More than 100 community volunteers also played a crucial role in the restoration. In early November 2001 they planted 1,300 trees and shrubs in the newly created floodplain and wetland area. The newly planted native vegetation will prevent erosion in the regraded wetland and floodplain areas. Once the

vegetation becomes established, Michael C. Miller of the University of Cincinnati and Anne Lyon of Greenacres Foundation will monitor the wetland area to track water quality improvements.

The Mill Creek Watershed Council has also sponsored a number of other awareness, restoration, and cleanup activities. The Council spearheaded an awareness program that installed 19 watershed signs at stream and river crossings. Following the success of this program, the Council worked with the Institute of Environmental Sciences of Miami University, Ohio, to design an areawide watershed awareness program. The Council has also sponsored 8 annual Mill Creek cleanup days. In the most recent cleanup day, the Mill Creek Yacht Club helped to remove a toilet bowl, a water heater, a washing machine, a transmission, several shopping carts, and other debris from the stream. Dozens of people showed up to help clean over a mile of stream through Reading and Lockland Counties. The Council is also working with numerous counties throughout the watershed to support local greenway projects that preserve parkland and open space along waterways and also restore the degraded portions of streams.

Two for the Price of One: Fundraising and Awareness

In October 2001 the Council held the first Capture the Creek Event. During this fundraising event 34 local artists exhibited their artistic interpretations of Mill Creek. Attendees of the event and supporters of Mill Creek then bid on the artwork in a silent auction. A dinner followed the exhibition. More than 160 guests events attended the event which successfully achieved its two goals: increasing awareness about Mill Creek and raising money through the sale of 20 pieces of artwork displayed in the exhibit. The Council is so excited about the success of Capture the Creek 2001 that it is planning another event to take place in fall 2003.

For more information about the floodplain and wetland restoration effort, contact Bruce Koehler of OKI at (513) 621-6300, or for more information about the Mill Creek Watershed Council, contact Nancy Ellwood, executive director, at (513) 563-8800 or visit www.millcreekwatershed.org.

If you'd like your project to appear as our next Featured Article, e-mail a short description to restorationupdate@tetratech-ffx.com.

Five-Star Restoration Projects Update

The goal of EPA's Five-Star Restoration Program is to bring together citizen groups, corporations, youth conservation corps, students, landowners, and government agencies to undertake projects that restore streambanks and wetlands. The program provides challenge grants, technical support, and peer information exchange to enable community-based restoration projects. A few five-star restoration projects are being revisited to see if the modest amount of funding (between $5,000 and $20,000) has helped the local restoration partners achieve their goals.

Project Title: **Frannie's Preserve Invasive Species Control**
Five-Star Grant: **$5,000**
Grant to: **Sanibel-Captiva Conservation Foundation**
Location: **Sanibel, Florida**
Grant Year: **2000**

Original Project Description:
The Sanibel-Captiva Conservation Foundation will eradicate invasive plant species from Frannie's Preserve, a 167-acre tract of undeveloped land along the Sanibel River that contains some of the most important wetland and riparian areas on Sanibel Island. The Foundation purchased Frannie's Preserve as the keystone property of a larger conservation effort by the Foundation and the City of Sanibel known as the Sanibel River Corridor Acquisition and Restoration Project. Project partners include the city, USDA's Natural Resources Conservation Service, the Charlotte Harbor National Estuary Program, and the Ding Darling National Wildlife Refuge. Signs will be placed at highly visible locations (e.g., a public beach access, a parking area, and two well-traveled bike paths) to explain to the community the threats invasive plants pose to native wildlife and the importance of the restoration activities. The Gulf of Mexico Program, a partnership underwritten by EPA, is providing funding for this grant.

Project Update:
With the Five-Star grant, the Sanibel-Captiva Conservation Foundation was able to purchase pesticides to treat invasive species on the preserve and pay for their application. The Conservation Foundation hired crews to spray for invasive plants throughout the 167-acre preserve. Initial treatment was completed 1½ years ago, but spray crews continue to re-treat the roots of especially persistent growths of Brazilian pepper and Australian pine.

The Conservation Foundation secured additional funding from the U.S. Fish and Wildlife Service to cover the cost of native species planting in upland areas. Conservation foundation staff plan to undertake the planting project this summer during the rainy season. Planting native species in wetland areas has not proved necessary since Conservation Foundation staff have observed rapid reestablishment of native species in wetland areas from the natural seed bank in the soil.

Local and out-of-state volunteers have assisted in several different aspects of the restoration at Frannie's Preserve. A group of college students from Georgia participated in a volunteer planting effort and also helped clean up an upland area formerly used as the island dump. The Sanibel Island Realtors Association has also helped out on several community cleanup days. **[Updated May 2002.]**

Project Title: Floodplain Wetland Restoration
Five-Star Grant: $10,000
Grant to: Friends of Buford Park and Mt. Pisgah
Location: Eugene, Oregon
Grant Year: 1999

Original Project Description:
The Friends of Buford Park and Mt. Pisgah, in partnership with the Northwest Youth Corps, Land County Parks, the Mt. Pisgah Arboretum, and the Oregon Department of Fish and Wildlife, will conduct a floodplain restoration project in Howard Buford Recreation Area in Lane County, Oregon. This historically forested riparian area has been abused over the years and is now a large pasture. This project will serve as a national model by demonstrating the benefits of "off channel storage" of floodwaters. Participants in the project will replace nonnative vegetation with native plants to increase both wildlife habitat and water quality. The program seeks to engage at-risk youth and offers on-the-job training and life and conservation skills to the participants. A community-wide education campaign will help to communicate the goals of the partnership and increase stewardship for the waterway.

Project Update:
The partnership removed approximately 15 acres of dense blackberry through repetitive mowing practices (up to three times) and the clearing of old fence lines. In cleared areas, native plants grew from the seed bank and were allowed to set seed before mowing resumed, improving conditions for native habitat restoration. A youth crew, led by Friends of Buford Park, successfully removed an entire population of a pernicious exotic weed. Follow-up monitoring showed no regrowth.

The partnership has planted approximately 4,500 native trees and shrubs (maple, ash, cottonwood, and willow) on a total of 25 acres. Volunteers (including Northwest Youth Corps students and middle and high school students) and staff continue to maintain the area by controlling pasture grasses growing around young trees. Friends of Buford Park designed an irrigation system to support tree establishment during summer droughts.

To support enhancement activities, the partnership constructed a small native plant nursery. The partnership collected the seeds of 17 floodplain herbaceous species for propagation in the nursery or broadcast seeding in areas cleared of exotics. They also collected, propagated, and planted cuttings of three native shrubs in an area of intensive exotic control. Funding permitting, the nursery is expected to grow.

The partnership is also designing and constructing permanent education signage for park users describing habitat enhancements.

In 2002 the partnership expects to complete final design and engineering work to reopen old flood channels, including breaching an old revetment/levee, removing road fill in side channels, and regrading to increase areas inundated by backwater during floods and high water events. Implementation of the design is planned for summer 2003. **[Updated March 2002.]**

Project Title: **Plant a Tree, Save a Fish Project**
Five-Star Grant: **$12,273**
Grant to: **Earth Conservation Corps-Salmon Corps**
Location: **Lewiston, Idaho, and Toppenish, Washington**
Grant Year: **2000**

Original Project Description:
The Earth Conservation Corps-Salmon Corps, in partnership with the Nez Perce Tribe, Umatilla Tribe, Grays Harbor College, and others, will restore riparian habitat along the main stem of the Yakima River and its confluences with the Clearwater and Snake Rivers. Partners in this "Plant a Tree, Save a Fish" project will propagate and plant 3,000 native willow, dogwood, and cottonwood trees on the riverbanks and in greenhouses on the campuses of local high schools and universities. The project will provide increased awareness of the characteristics and value of a healthy riparian community, as well as ecosystem protection, to students, teachers, and local citizens. The National Marine Fisheries Service Community-based Restoration Program is providing partial funding for this grant.

Project Update:
Salmon Corps has launched a new program called Salmon Watershed Education Between Schools (Salmon WEBS). The program encourages schools and classes to "adopt a watershed." Through this program, students from local schools select their own restoration projects as part of their service-learning curriculum. Participating schools locate a reach of stream in their neighborhood that needs restoration, contact local and regional land managers (such as the U.S. Forestry Service or Salmon Corps) for assistance, and grow and plant trees to rebuild riparian areas that benefit salmon habitat by shading streams and lowering water temperatures. Salmon Corps hopes the program will instill in local students a sense of ownership for the restoration projects and will translate into permanent restoration.

Salmon Corps spent 2001 establishing partnerships with Naches Valley High School and Yakima Tribal School. In 2002 Salmon Corps brought the Naches Ranger District into the program and created a three-way partnership between the Ranger District, Salmon Corps, and Naches Valley High School. The Ranger District provided technical assistance for planting projects and helped the high school select restoration sites. Currently, Salmon Corps is working to establish a three-way partnership with Tammany High School in Lewiston, Idaho, and the local Natural Resource Conservation District.
[Updated May 2002.]

For more information on EPA's Five-Star grant program, visit
http://www.epa.gov/owow/wetlands/restore/5star.

Community-Based Restoration Partnerships

Restoring a Creek for the Community

The community can once again enjoy Baxter Creek in Northern California's San Francisco Bay Area. In June 2000 the nonprofit Urban Creeks Council received several grants to plan, design, and restore 800

feet of Baxter Creek in Richmond's Booker T. Anderson, Jr., Park. The funds included a $45,000 grant from the California Coastal Conservancy and a $92,000 grant from the State Department of Water Resources. The group also received a $15,000 grant from the San Francisco Foundation for community outreach activities related to the project.

As part of park "improvement" efforts in the 1970s and 1980s, Baxter Creek was widened, straightened, lined with concrete in places, and fortified with boulders. By the summer of 2000 little or no vegetation existed on the banks, boulders had tumbled from their original locations, concrete was undercut, and denuded banks were eroding. In mid-August 2000, the Urban Creeks Council and its partners reshaped the creek's channel to restore pools, riffles, and meanders. They also removed boulders and riprap and replanted the creek's banks.

After the restoration project was complete, Gary Hernandez, chair of the Coastal Conservancy, noted, "The Baxter Creek restoration will significantly improve Richmond's Booker T. Anderson, Jr., Park for use of the community, while creating wildlife habitat and helping to purify water that flows to the bay. It will demonstrate that urban streams have uses well beyond the conveyance of storm waters."

Continuing the Work

For the past 2 years the Friends of Baxter Creek, an affiliate of the Urban Creeks Council, has celebrated Earth Day at the newly restored section of the creek with community work parties, followed by free lunches. Teachers at nearby Stege Elementary School have "adopted" the creek and are conducting a variety of creek-related educational activities. Several project partners have already produced a study of water flow and a revegetation plan necessary for the creek's restoration. The Urban Creeks Council is working with and training city park and landscaping staff in constructing and maintaining the project. For more information, see www.creativedifferences.com/baxtercreek/Gateway.html.

Adopt-A-Stream Program in Massachusetts Makes Progress

Since 1987, the Adopt-A-Stream program has worked with more than 150 groups to help protect streams and rivers in Massachusetts. The program supports groups who want to "adopt" a river or stream by working to improve water quality and protect lands adjacent to rivers. The staff provide a variety of services, depending on a group's needs. For groups that are just getting started, Adopt-A-Stream staff assist with community outreach, public education, and short-term goal setting. The staff also provides guidance as new groups begin organizing community support and gathering the resources necessary to assess their river. Adopt-A-River staff also provide support services to maintain and revitalize existing groups. The staff offers technical support for water quality monitoring and habitat improvement projects. They also offer guidance for land acquisition, watershed mapping, long-term action plan development, water quality improvement, stream stocking, stream cleanup, and open space protection projects.

When they adopt a stream, many groups complete Shoreline Surveys to provide a qualitative overview of the river and to identify problems and sensitive areas. The groups use data sheets and protocols created by the Adopt-A-Stream Program to perform a visual survey of the river. To date, Adopt-A-Stream groups have completed more than 70 Shoreline Surveys.

The Adopt-A-Stream program has been a vital resource in involving volunteers in river cleanup programs. Over the past year, Stream Team groups have recruited volunteers to make a difference in the following watersheds:

- The Assabelt River: The Northboro Citizens for Community Preservation have worked to promote awareness of existing open space and have helped the town protect wildlife habitat and watershed areas. The group participated in the September 2001 cleanup of the Assabelt River.
- The Canton River: The Canton River Watershed Watchdogs sponsors several yearly events including the Canton Rotary River Day, which raises awareness of watershed issues in the community, and the Community Water Watch Event, in which volunteers gather to clean up conservation land around the Canton Reservoir.
- The Neponset River: The Friends of the Neponset Estuary have been working to protect and restore the salt marshes around Squantum Point.
- The Otter River: The Otter River Stream Team, a newly formed Adopt-A-River group held its first volunteer cleanup effort on May 12, 2001.
- The Nashua River Watershed: The Fitchburg Stream Team is working to clean up multiple dumpsites along the Nashua River. In spring 2001 students from Fitchburg State College worked with Stream Team members to remove trash from several segments of Baker Brook, a Nashua River tributary.
- The North Coastal Watershed: The Sawmill Brook/Manchester Stream Team received a Five-Star Restoration Grant funded by the NOAA restoration center to restore smolt habitat along Sawmill Brook. Multiple partners organized by a citizen-driven effort will clear invasive plants, trash, and other barriers to streamflow to restore habitat in Sawmill Brook. The Stream Team is also working to distribute educational materials about the environmental benefits of riparian buffers to area landowners.

For more information on the work being completed through the Massachusetts Adopt-A-Stream program, visit www.state.ma.us/dfwele/RIVER/rivnews.htm.

If you are part of an innovative community-based partnership that is working to restore river corridors or wetlands, we'd like to hear from you. Please send a short description of your partnership to restorationupdate@tetratech-ffx.com.

Achieving Restoration Results

Little Neck No Longer Choked Off

Little Neck Marsh, in Ipswich, Massachusetts, is functioning properly again. This 6-acre marsh is a part of Massachusetts' Great Marsh. Little Neck Road, located along the perimeter of the marsh, has restricted tidal flow to the marsh for decades. The situation deteriorated further during the winter of 1999 when a culvert under the road collapsed, almost completely eliminating what little tidal flow existed. The salt marsh essentially developed into a brackish pond, as freshwater drainage was impeded by the blockage. Coverage of Phragmites increased, and several large patches of salt marsh vegetation died as a

result of constant inundation. Besides affecting the marsh vegetation, the undersized culvert restricted the access of fish into the marsh, limiting its habitat value.

With guidance and support from the Massachusetts Wetlands Restoration Program's (MWRP's) North Shore Initiative, the Ipswich Department of Public Works replaced the old 24-inch culvert with two 4-foot-wide arch culverts, restoring tidal flushing into and out of the impaired marsh. The Natural Resources Conservation Service provided design/engineering work and funding for materials. The final cost of the project was $37,000.

Changes in tidal hydrology, soil chemistry, and vegetation resulting from increased tidal flow are being monitored by Salem Sound 2000's Watershed Health Assessment Toolbox program and Massachusetts Audubon's Salt Marsh Science Initiative. In addition, MWRP is using the Little Neck project site as a pilot study area for field testing its own monitoring procedures. Monitoring through a combination of these efforts is expected to continue until at least 2006. For more information, see www.state.ma.us/envir/mwrp/MWRP2001ProgressReportPartB.pdf.

Historic Preservation Results in Wetland Restoration

In 1836 a marsh was largely responsible for the defeat of the Mexican army that gave Texas its independence. More than 150 years ago General Sam Houston was engaged in battle with 1,300 Mexican solders under the command of General Antonio Lopez de Santa Anna. When Houston gained the upper hand in the battle, the Mexican army attempted to retreat through a tidal marsh that blocked the only escape route. Located in what is now known as the San Jacinto Battleground, the marsh claimed the lives of hundreds of Mexican troops and allowed Texas to win its independence.

Over the last 150 years, the marsh has suffered. Introduction of exotic species, reduction of wildfires, and changes in water level due to business and industry have almost eliminated the tidal marsh along Galveston Bay. In particular, the historic marsh at San Jacinto was completely converted to open water in the late-1900s as a result of land subsidence from excessive groundwater removal by industry. Texas Parks and Wildlife Department (TPWD) began restoring the tidal wetland areas in the 1990s by pumping clean sand and sediment that was displaced by the construction of the Houston Ship Channel. TPWD continues to plant native vegetation in the area. TPWD's master plan is to restore the San Jacinto Battleground to what it was in 1836.

Texas Parks and Wildlife created an interpretive trail to allow the community to access the marsh without adversely affecting the habitat. An Interpretive Trail Guide describing the battle and the habitats of the upper Texas coast is available on line at www.tpwd.state.tx.us/park/sanjac/marsh.htm. For more information about the restoration effort, contact the Texas Parks and Wildlife Department at park.information@tpwd.state.tx.us.

If you are part of an innovative restoration project that has had positive results, we'd like to hear from you. Please send a short description of your project to restorationupdate@tetratech-ffx.com.

Funding for Restoration Projects

Patagonia Grants
Patagonia has funding available for citizen-supported organizations that identify and work on the root causes of environmental problems and approach issues with a commitment to long-term change. Eligible projects must be action-oriented, be strategic, build public involvement and support, and focus on basic causes. Patagonia focuses on funding local groups working to protect local habitat and supports individual efforts to protect river stretches or indigenous wild species. Patagonia has given more than $300,000 to water-related groups in grants ranging from $1,000 to $20,000. Deadline for submission is August 31, 2002. For more information, visit www.patagonia.com/enviro/grants_app.shtml.

Texas Coastal Nonpoint Source Pollution Control Projects
In fiscal year 2004 approximately $400,000 in Section 6217 funds will be available for implementation of the Coastal NPS Program. Proposed projects should specifically target the implementation of the management measures, strategies, and tasks set forth in the Coastal NPS Program. (Management measures for wetland and riparian areas can be viewed at www.glo.state.tx.us/coastal/6217/pdf/chapter5-4.PDF.) Projects must also be within the Coastal Management Program Boundary; include implementation activities that will accomplish or support the Texas Coastal NPS Program objectives; include a quantifiable water quality goal; and identify the best management practices and other measures that will be undertaken to reduce pollution and pollutant loading. Project grant funds cannot be used for projects that are required under Phase II of the National Pollutant Discharge Elimination System (NPDES) Stormwater Permit. Project requests should be below $100,000, and a 50 percent match is required. For more information, visit www.glo.state.tx.us/coastal/nps/rfp.html or contact Blake Traudt, Grants, Education and Outreach, 1700 North Congress Avenue, Room 617, Austin, TX 78701-1495 at (512) 475-1745.

Gulf of Mexico Community-Based Habitat Restoration Proposals
The EPA through the Gulf of Mexico Program Office (GMPO) is soliciting preproposals from state water pollution control agencies, interstate agencies, tribes, and other public or nonprofit private agencies, institutions, and organizations interested in applying for federal assistance for Water Quality Cooperative Agreements. For fiscal year 2004, the program expects to allocate approximately $2M to fund projects that support the restoration of impaired waterbodies, including coastal and marine habitat protection, restoration, and enhancement in priority coastal areas. Supplemental awards of existing projects are eligible to compete with proposals for new projects. Eligible projects include place-based projects that take place Gulfwide, in one of the 12 Priority Coastal Areas of the Gulf of Mexico Program, or in the lower Mississippi River and its Tributaries. Projects should focus on improving water quality, protecting or restoring important marine habitats, protecting public health, or reducing nutrient loading in the Mississippi River. Deadlines for submission will be established at Gulf State Meetings held through July 2002. The complete request for proposals can be viewed at www.epa.gov/gmpo/pubinfo/fy2004fundingguidancevers4.pdf.

Please send any news you have on funding mechanisms available to local community organizations to restorationupdate@tetratech-ffx.com.

News and Announcements

Wetlands Project Launched in California

California has announced the start of the largest wetlands restoration project ever attempted on the West Coast. This project is so large that it is rivaled nationally only by the projects to restore the Florida Everglades and Chesapeake Bay. Estimated to cost between $200 million and $1 billion, the project to restore the salt marshes around San Francisco Bay will be no small task.

The restoration takes place in salt ponds formerly held by Agribusiness giant Cargill Inc. Cargill has used the land for salt production since the 1850s. The ponds are now polluted with brine, a compound that is toxic in its solid form. To restore healthy marshes, the polluted ponds will have to be diluted, a process that is expected to take decades.

Plans are to turn the restoration land over to the Don Edwards San Francisco Bay National Wildlife Refuge and California-run wildlife preserves. The restored marshes will serve as habitat for migratory birds and other species. This restoration is vital to the health of Bay ecosystems that have lost an estimated 80 percent of tidal marshes to diking, filling, and development.

Joining forces to complete this task are the federal government, the state of California, the William and Flora Hewlett Foundation, the David and Lucile Packard Foundation, the Gordon and Betty Moore Foundation, and the Richard and Rhoda Goldman Fund. The state of California provided most of the $100 million necessary to purchase the 16,500 acres from Cargill Inc. The federal government has agreed to

contribute $8 million toward the restoration effort, and local agencies and charities have pledged more than $35 million to support the project.

"Today we're taking the first step to reverse the course of history. Together we'll restore an extraordinary but endangered natural resource," announced California Governor Gray at Wednesday's ceremony announcing the deal. News releases about this project can be found at http://story.news.yahoo.com/news?tmpl=story&u=/ap/20020529/ap_on_re_us/wetlands_deal_1 and www.enn.com/news/wire-stories/2002/05/05302002/reu_47382.asp.

Upcoming Conferences and Events

The International Coastal Cleanup
September 21, 2002

The International Coastal Cleanup is a global project of the Center for Marine Conservation (CMC) and is supported by an international network of environmental and civic organizations, government agencies, industries, and individuals who remove debris and collect valuable information on the amount and types of debris. This information serves to educate the public on marine debris issues and to encourage positive changes that will reduce debris in waterways and enhance aquatic environments.

The Cleanup provides inspiration to hundreds of thousands of people who will mobilize along our waterways and beaches for the annual cleanup on the third Saturday of every September. Since 1986, the Cleanup has grown from 2,800 volunteers on the coast of Texas to more than 500,000 volunteers in 55 U.S. states and territories and more than 90 countries. For more information, visit www.oceanconservancy.org/dynamic/getInvolved/events/icc/icc.htm.

Fifth Wetlands Workshop
October 22–25, 2002
Atlantic City, New Jersey

This workshop is designed to unite scientists, regulators, nongovernmental organizations, consultants, resource managers, and users in a discussion about contemporary wetland issues. The workshop is currently seeking presentations dealing with contemporary wetland issues, such as mitigation banking, restoration, identification, protection, hydrophytic vegetation, hydric soils, hydrology, riparian restoration, and permitting issues. Any suggested topics can be sent to spagnolo.ralph@epa.gov or visit www.thereillygroup.net/5th_wetlands_workshop.htm. Additional details about the workshop will be available as the event nears.

To post your restoration news and announcements, please send information to restorationupdate@tetratech-ffx.com.

Restoration-Related Web Sites

www.epa.gov/owow/wetlands
EPA's Office of Wetlands, Oceans, and Watersheds Wetlands Division. This web site offers links to the programs offered under EPA's Wetlands Division. Resources available through this site include educational materials, tools for wetland restoration and protection, and monitoring programs. *This web site is a good starting place for obtaining many kinds of wetland-related information.*

www.epa.gov/owow/estuaries

EPA's National Estuary Program. The National Estuary Program was established by amendments to the Clean Water Act to identify, restore, and protect nationally significant estuaries of the United States. The site lists estuaries throughout the United States involved in the program. Many of the estuaries are struggling with methods to slow wetland loss and restore wetlands on their project sites. *This site provides links to national estuaries and shares wetland restoration success stories and current steps being taken to combat wetland loss.*

www.cees.iupui.edu/ARBOR

Lilly Arbor Project. This web site was designed to report the results of the restoration project along the White River in Illinois. Trees were planted on 8 acres of the riparian corridor, using containerized stock, bare root whips, and bare root whips along with weed control strategies. The web site includes pictures, a newsletter, and monitoring results. *This site contains information about the success rate of riparian restoration strategies and provides numerous pictures of the restoration project as it progressed.*

www.nwf.org/conservationdirectory/search.cfm

NWF Conservation Directory. The National Wildlife Federation (NWF) maintains a sizable database of conservation organizations. The database can be searched by group name, location, group type, or environmental issues. The database records point of contact, background, membership, publications, and activity information from the organization. *This site is a good resource for anyone seeking information about watershed organizations.*

www.aquatics.org

Aquatic Ecosystem Restoration Foundation (AERF). AERF is a nonprofit, tax-exempt corporation created to conduct and support applied research in the management of aquatic pest species, with a focus on nuisance vegetation. AERF supports research for the control of aquatic weed species and exotic plants such as Eurasian watermilfoil, hydrilla, water hyacinth, purple loosestrife, and other aquatic weeds found in lakes, ponds, reservoirs, rivers, and streams. *This web site would be useful to anyone seeking research on or help to eradicate invasive species from aquatic environments.*

http://yosemite.epa.gov/water/restorat.nsf

EPA Inventory of Ecological Restoration Projects. This database maintained by the EPA contains information on ecological restoration projects throughout the United States. Project information includes an abstract, project dates, location, contact person, goals, funding sources, and other restoration information. From this site, information for projects can be viewed or new projects can be posted. *This site would be useful to anyone looking for restoration projects in their area, or looking for past projects that might be related to a current restoration effort.*

www.delep.org/who.htm

Delaware Estuary Program. This program was developed by a group of concerned citizens who continue to work toward protecting and enhancing the Delaware Bay. The web site provides information on water quality monitoring, restoration efforts, USGS mapping, and surrounding watersheds. *This web site would be useful for anyone looking for information on the current steps being taken to protect America's estuaries and surrounding habitat.*

http://www.state.ma.us/czm/waveg.HTM
Wetlands Vegetation Protection Project. The Massachusetts Office of Coastal Zone Management supports this site containing a study that analyzes the environmental stressors related to vegetation change. The study is an attempt to develop an inventory of wetland health based on wetland vegetation. *This site provides research about wetland health and vegetation.*

www.acnatsci.org/research/pcer/research.html
The Patrick Center for Environmental Research. The Patrick Center conducts research promoting environmental stewardship. It is supported by the Academy of Natural Sciences, an international museum of natural history that undertakes research and public education focusing on the environment. The Patrick Center conducts water quality monitoring, manages watersheds, forms watershed alliances, and studies chemicals in aquatic environments. It also supports a research group that focuses solely on river restoration. *This site provides current wetlands and riparian research and e-mail addresses for staff scientists involved in wetlands research.*

www.npwrc.usgs.gov/resource/literatr/ripareco/ripareco.htm
USGS Riparian Ecosystem Creation and Restoration: A Literature Summary. This online document provides a complete overview of the creation of riparian ecosystems. It includes case studies and information on the value and function of riparian ecosystems, the cost of restoration, how to plan and implement a restoration project, and how to implement post project monitoring. *This publication contains practical advice for anyone seeking to undertake a riparian restoration project.*

Let us know about your restoration-related web site. Please send relevant URLs to restorationupdate@tetratech-ffx.com.

Information Resources

Understanding Natural Wetlands
by D. Smith and J.A. Moore

Available for viewing at http://eesc.orst.edu/agcomwebfile/edmat/html/ec/ec1407/ec1407.html, this brief paper introduces wetlands, describes wetland ecology, and discusses how wetlands can improve water quality.

Revised Manual on Benthic Macroinvertebrate Biological Monitoring
by Rob Plotnikoff and Chad Wiseman

A revised macroinvertebrate sampling guide is now available. *Benthic Macroinvertebrate Biological Monitoring Protocols for Rivers and Streams* covers study design, field quality assurance, safety procedures, field operations, lab sample processing, data analysis, and overall data management of benthic samples. To view this document online, visit www.ecy.wa.gov/biblio/0103028.html or order a hard copy free of charge by e-mailing ecypubs@ecy.wa.gov concerning publication #01-03-028.

Protecting Our Watersheds
from Earthforce

Protecting Our Watersheds, a water monitoring education and action tool, is a comprehensive educational package that includes materials to encourage students to take action against problems they find in their watershed. The package includes a facilitator's guide, posters, an activity notebook, handouts, and a tote bag. Protecting Our Watersheds works well with the interactive GREEN (Global River Environmental Education Network—See Confluence Vol. 4, No. 2) web site. E-mail greensales@earthforce.org to purchase your copy or order online at http://www.earthforce.org/catalog.

Volunteer Wetlands Monitoring: An Introduction and Resource Guide
by EPA

The Wetlands Division of EPA's Office of Wetlands, Oceans, and Watersheds is announcing the release of *Volunteer Wetland Monitoring: An Introduction and Resource Guide* (Publication number EPA 843-B-00-001). This booklet provides an introduction to why and how people monitor wetlands. It also includes a multipage resource guide that directs the reader to handbooks and manuals that offer detailed information on wetland monitoring for the layperson. The guide also offers advice on approaching wetland monitoring. For more information, contact Kathleen Kutschenreuter (202) 566-1383 or to obtain a hard copy of the guide, contact the Wetlands Helpline at 800-832-7828. The publication can be downloaded from the web at www.epa.gov/owow/wetlands/monitor/volmonitor.html.

River Smart Campaign Materials
by River Network

River Network is creating Tool Kits to distribute to watershed groups interested in generating greater awareness and participation of communities in watershed programs. The campaign will create television, radio, and print ads for use by River Network partner groups in local communities this summer and fall. Each ad includes an opportunity for partner groups to insert local contact information. Additional educational materials will be included to support the campaign.

The main goals of the River Smart Campaign are to remind Americans that their daily actions affect the quality and quantity of the nation's water supply, provide tips they can use in and around their homes, and invite them to join their local river and watershed group.

If you are interested in learning more about River Smart or participating in the campaign, please contact Ben Strand at (800) 639-8108 or bstrand@rivernetwork.org. Additional information can also be found at www.rivernetwork.org/howwecanhelp/riversmart.cfm.

If you'd like to publicize the availability of relevant information resources, please send information to restorationupdate@tetratech-ffx.com.